CLAIMS

WHAT IS CLAIMED IS:

1. A debridement device having a wound contacting layer for debridement of a wound, comprising:
a layer of gel-forming fibres;
a plurality of bristles in contact with the gel-forming fibres; and
a handle attached to a non-wound-contacting surface of the device.

2. The device of claim 1, wherein the plurality of bristles comprise a pile of monofilaments or fibres.

3. The device of claim 2, wherein the plurality of bristles comprise nylon, acetal, polypropylene, acrylic, polyvinyl chloride (PVC), polycarbonate, silicone, wool, or any combination thereof.

4. The device of claim 1, wherein the plurality of bristles comprise filaments arranged perpendicular to the wound contacting layer.

5. The device of claim 1, wherein the layer of gel-forming fibres are woven or knitted.

6. The device of claim 1, wherein the layer of gel-forming fibres have an absorbency of at least 10 g/g and resists lateral spread of a fluid upon absorption.

7. The device of claim 1, wherein the layer of gel-forming fibres comprises sodium carboxymethylcellulose that has a degree of substitution of at least 0.05 carboxymethyl groups per cellulose unit.

8. The device of claim 1, further comprising anti-biofilm agents, metal chelators, surfactants, or any combination thereof.

9. The device of claim 1, further comprising one or more support layers in contact with the layer of gel-forming fibres, wherein the support layer comprises foam, fabric, blended fabric, paper, polymer, plastic, or any combination thereof.

10. The device of claim 9, further comprising a support layer forming a backing having an anti-slip material.

11. The device of claim 1, further comprising a diagnostic unit in fluid communication with the layer of gel-forming fibres, wherein the diagnostic unit comprises at least one of an enzyme-based assay or an electronic sensor.

12. The device of claim 11, wherein the diagnostic unit comprises one or more diagnostic disks, comprising:

a) a reaction layer comprising one or more reagents configured to interact with a target enzyme indicative of a microbial infection, wherein the reagents are affixed to a solid phase;
b) each reagent is sprayed, printed, or deposited in a reagent area separated by impermeable separators;
c) each reagent area comprises a reporter area wherein a color, color change, or other detectable signal is observed; and
d) a transparent cover comprising a window for visualizing the signal in the reporter area.

13. The device of claim 11, wherein the fluid communication comprises one or more of a wicking material that comprises hydrophilic fibres, gelling fibres, or filter paper.

14. A kit for debridement of a wound, comprising:
the debridement device of any one of claims 1 to 13 having a wound contacting layer for debridement of a wound;
a solution for assisting in debridement of the wound comprising one or more of antimicrobial agents, anti-biofilm agents, metal chelators, or surfactants; and
a treating agent comprising at least one of an antimicrobial and anti-biofilm composition.

15. The kit of claim 14, further comprising: a diagnostic unit in fluid communication with the debridement device, wherein the diagnostic unit comprises at least one of an

enzyme-based assay, an electronic sensor, or one or more reagents for indicating infection of the wound.

16. The kit of claim 14, further wherein the wound contacting layer comprises one or more foams.